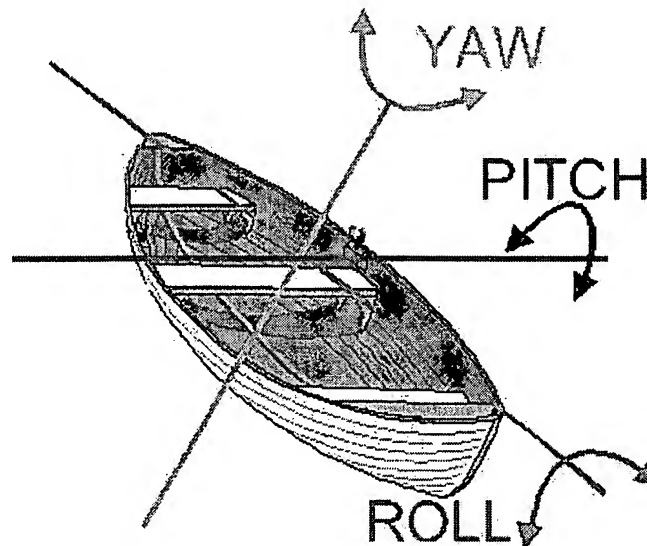


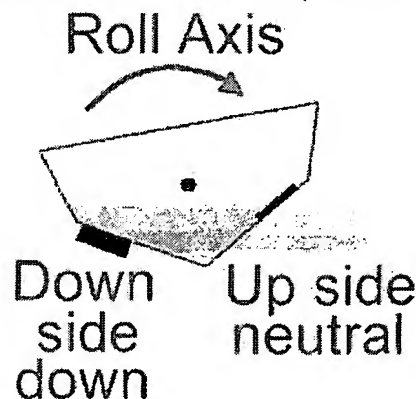
## Trim Tabs - An Explanation

Trim tabs work exactly the same way as the control surfaces on an airplane. As you know, there are three axes affecting the motion of your boat as you travel through the water: **Yaw**, **Pitch** and **Roll**.



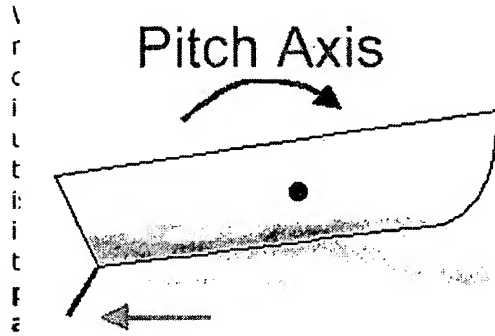
Trim tabs have little effect on the **yaw** axis, because yaw is controlled by the rudder or the side to side movement of the outdrive. Where they are effective is in the **roll** axis, to eliminate or reduce listing or heeling, especially if your boat has a deep "V" hull, and in the **pitch** axis, to raise or lower your bow.

The port and starboard trim tabs act independently. It is a simple thing to adjust them to lift the down side of the boat and compensate for the three or four hundred kilos of weight caused by your passengers all wanting to be on the same side. To do this, lower the **down side** tab. The water pressing against



the tab as you move will lift that side of the boat (around the **roll axis**) and eliminate your list. As your passengers move about, you can continue to adjust the tabs to compensate for the redistribution of weight. You must understand though, the trim tabs will have less effect at slower speed than at high speed. You can understand this by a simple experiment. Next time you are in your car put your hand out of the window at an angle to the slipstream. Note that when you drive slowly, the wind has little effect on your hand but as you speed up, the wind will eventually drive your hand up and back.

Now remember, water is much more dense than air so prudence in applying trim is recommended.



getting

their boats to the plane mode as quickly as possible. It is then easy to maintain the boat's most economical cruising speed by tab adjustment. This is accomplished using the "**Bow Down**" control. This lowers both tabs and the force of the water against them will push the stern up consequently lowering the bow (around the **pitch axis**). Again, smooth rather than aggressive application is recommended to prevent pitch down of the bow. Trim may also be used in the **pitch axis** to keep the bow up to avoid taking seas over the bow if the water is rough. Naturally you would use the "Bow Up" control to do this.

I mentioned that trim tabs have little effect in the **yaw axis**, but they do have some. I'm sure you can readily understand that if you have only one of the tabs hanging out, besides lifting that side of the boat it will also cause a certain amount of **drag**. This will have the effect of slowing that side of the boat causing the bow to rotate about the **yaw axis** and turning the boat to that side. The rudder or out-drive are usually adjusted slightly to compensate.

Using trim tabs is much like riding a bicycle. You learn to do it by feel. Your knot meter will tell you when you have trimmed for best speed at any throttle setting and your common sense will help you adjust trim to sea conditions and weight distribution. I am positive that in gaining experience you will soon amaze your friends with your skills in boat handling and trim.

Capt. Pat

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<b>Term:</b>	tramp (n)
<b>Definition:</b>	A ship that carries and delivers cargo wherever the captain finds work, and which does not follow any regular route.
<b>See Also:</b>	coaster

<b>Term:</b>	trans-Atlantic (adj)
<b>Definition:</b>	Describing a type of voyage or a ship that sails such a route across the Atlantic Ocean

<b>Term:</b>	transit bearing (n)
<b>Definition:</b>	A line of position determined by lining up two charted features as they are passed.
<b>See Also:</b>	range

<b>Term:</b>	transmitter (n)
<b>Definition:</b>	A device that can send messages by radio waves.
<b>See Also:</b>	radio, marine radio

<b>Term:</b>	transom (n)
<b>Definition:</b>	The flat outboard stern structure of a ship from keel to deck.

<b>Term:</b>	transom stern (adj)
<b>Definition:</b>	Describing a vessel's hull which has a transom board aft to which the planking is fastened.
<b>See Also:</b>	canoe stern

<b>Term:</b>	transponder (n)
<b>Definition:</b>	Electronic equipment that transmits a unique identifier signal when paged to identify the vessel and its location on a radar screen

<b>Term:</b>	transport (n)
<b>Definition:</b>	A ship used to carry troops and military equipment to and from an area of conflict.



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<b>Term:</b>	transship (v)
<b>Definition:</b>	To offload cargo from one ship to another which will then continue to the destination

<b>Term:</b>	trap (n)
<b>Definition:</b>	A fishing cage which is baited and placed on the ocean floor to catch lobster or crab.
<b>See Also:</b>	pot

<b>Term:</b>	trapeze (n)
<b>Definition:</b>	A line suspended from the mast and used to support the upper body of hikers.
<b>See Also:</b>	hike

<b>Term:</b>	travel lift (n)
<b>Definition:</b>	A motorized hoist, sometimes designated as a mobile gantry crane, that can lift boats out of the water using slings, then drive to a storage or repair location ashore.
<b>See Also:</b>	haul, haul out, careen

<b>Term:</b>	traveler (n)
<b>Definition:</b>	An arrangement of a wide metal bracket or horse often mounted on the cabin top or deck under the boom to which the sheet block is secured allowing it to move to the lee side at each tack.
<b>See Also:</b>	horse, boom traveler


<b>Term:</b>	trawl (n)
<b>Definition:</b>	A fishing rig made up of the nets and lines that are dragged on the bottom behind a fishing boat.

<b>Term:</b>	trawl (v)
<b>Definition:</b>	To fish by dragging a bottom net behind a moving boat.

<b>Term:</b>	trawler (n)
<b>Definition:</b>	1) A fishing boat specially equipped to drag a trawl over the bottom to catch fish. 2) A person who fishes with a trawl boat.

<b>Term:</b>	trench (n)
<b>Definition:</b>	An extremely deep canyon found in the ocean floor, as in "The deep submersible Alvin found abundant sealife in the Mariana Trench."
<b>See Also:</b>	deep, abyss

<b>Term:</b>	trestletrees (n)
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<b>Definition:</b>	Stout timbers mounted in pairs at the head of the mainmast as support for the crosstrees and the top.
<b>See Also:</b>	bibbs
(Click on image to enlarge.)	

<b>Term:</b>	trice (v)
<b>Definition:</b>	To tie down a sail with a quick temporary lashing of smallstuff.
<b>See Also:</b>	lash

<b>Term:</b>	trick (n)
<b>Definition:</b>	A full watch at the helm.
<b>See Also:</b>	watch

<b>Term:</b>	trident (n)
<b>Definition:</b>	A spear with three prongs used for fishing.

<b>Term:</b>	trim (v)
<b>Definition:</b>	1) To adjust the sails so that their angle to the apparent wind achieves the most power possible. 2) To move carefully to the centerline of a canoe or small boat in order to maintain stability.
<b>See Also:</b>	sailtrim

<b>Term:</b>	trim (n)
<b>Definition:</b>	The condition of a vessel that is loaded and balanced properly so that she floats correctly on her waterline. 2) The angle between the sail and the bow, as in, "Set the trim for a broad reach." 3) The buoyancy and stability of a submarine.

<b>Term:</b>	trim tabs (n)
<b>Definition:</b>	Moveable plates mounted under the transom of a fast boat that can be adjusted electrically to help the boat plane with better trim.

<b>Term:</b>	trimaran (n)
<b>Definition:</b>	A very fast sailing vessel featuring a narrow central hull and two outboard hulls, with decking over all.
<b>See Also:</b>	catamaran, multihull

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